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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/554,403	12/08/2005	Christian C. Burger	66722-080-7	4598

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EXAMINER

ROBINSON, RYAN C

ART UNIT	PAPER NUMBER
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2614

MAIL DATE	DELIVERY MODE
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01/14/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/554,403	Applicant(s) BURGER ET AL.	
	Examiner RYAN C. ROBINSON	Art Unit 2614	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 October 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☒ Claim(s) 4, 6, 9, 11 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 October 2008 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>10/24/2005</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. The Art Unit location of your application in the PTO has changed. To aid in correlating any papers for this application, all further correspondence regarding this application should be directed to Group Art Unit **2614**.
2. This communication is responsive to the applicant's response/amendment filed on 10/20/2008.

Claim Objections

3. Claim 4, 9, and 11 are objected to because of the following informalities: Claims 4, 9 and 11 at line 2 reads "the cavity or second tube part". It is understood from claim 1 that the cavity is "shaped as a second tube part", so either the single term "cavity", or "second tube part" will suffice. Appropriate correction is required.
4. Claim 6 is objected to because of the following informalities: Claim 6 at line 6 reads "various". It appears that applicant meant "varies". Appropriate correction is required.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bartlett et al., U.S. Patent No. 5,745,588, published on 4/28/1998, (hereby Bartlett).

7. As to claim 1, Bartlett teaches a microphone with housing (10) and an active element inside the housing, (inside the microphone is a diaphragm, since the microphone is an electret; Col. 2, lines 59-60), for converting sound energy into electric energy whereby an inlet (5) is provided outside of the microphone housing for directing sound energy from the surroundings to the active element, whereby the inlet comprises a first tube part (perpendicular to the plane of the front of microphone housing [11]) and a cavity (21), said cavity having only one opening, said opening connecting the cavity with the first tube part, whereby the cavity is dimensioned to dampen frequencies (Col. 1, element 40), and where the cavity (21) is shaped as a second tube part with a length dimension L which varies slightly with the cross section of the second tube part. (The cavity has ridges [23], which vary the length with the cross section.)

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It is noted, that Bartlett does not explicitly teach that the cavity is dimensioned to dampen ultrasonic frequencies. However Bartlett does not limit the damping of frequencies to any particular range. Therefore, it would have been obvious to dimension the cavity to damping any desired sonic frequency, including ultrasonic frequencies.

8. As to claim 2, Bartlett teaches that the cavity has a dimension L which is around $1/4$ of the wavelength of the ultrasonic frequency to be dampened (Col. 3, lines 62-64).

9. As to claim 3, Bartlett teaches that the second tube part (21) is arranged in a plane perpendicular to the first tube part (Col. 3, lines 49-51). It is noted that Bartlett does not explicitly disclose that the shape of the second tube part is curved. However, Bartlett does not limit the shape of the tube cavities and discloses that the second tube part can be any shape (Col. 7, lines 39-41). Therefore, it would have been obvious to one of ordinary skill in the art to form the second tube part in any desired shape, such as a curve.

10. As to claim 4, Bartlett teaches that the cavity (21) is arranged in close proximity of the microphone (11).

11. As to claim 5, Bartlett teaches a microphone with housing (10) and an active element inside the housing, (inside the microphone is a diaphragm, since

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the microphone is an electret; Col. 2, lines 59-60), for converting sound energy into electric energy whereby an inlet (5) is provided outside of the microphone housing for directing sound energy from the surroundings to the active element, whereby the inlet comprises a first tube part (perpendicular to the plane of the front of microphone housing [11]) and a cavity (21), said cavity having only one opening, said opening connecting the cavity with the first tube part, whereby the cavity is dimensioned to dampen frequencies (Col. 1, element 40), and where the cavity (21) is shaped as a second tube part with a length dimension L which varies slightly with the cross section of the second tube part. (The cavity has ridges [23], which vary the length with the cross section.)

It is noted, that Bartlett does not explicitly teach that the cavity is dimensioned to dampen ultrasonic frequencies. However Bartlett does not limit the damping of frequencies to any particular range. Therefore, it would have been obvious to dimension the cavity to damping any desired sonic frequency, including ultrasonic frequencies. It is also noted that Bartlett does not explicitly teach that the microphone is used in a hearing aid. However, Bartlett does not limit the use of the microphone to any particular device. Furthermore, examiner takes official notice that was well known in the art to include directional microphones such as the ones disclosed by Bartlett in a hearing aid. Therefore, it would have been obvious to one of ordinary skill in the art to incorporate the microphone of Bartlett into a hearing aid.

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12. As to claim 6, Bartlett teaches an inlet structure for a microphone, comprising a first tube part (perpendicular to the plane of the front of microphone housing [11]) and a cavity (21), said cavity having only one opening, said opening connecting the cavity with the first tube part, whereby the cavity is dimensioned to dampen frequencies (Col. 1, element 40), and where the cavity (21) is shaped as a second tube part with a length dimension L which varies slightly with the cross section of the second tube part. (The cavity has ridges [23], which vary the length with the cross section.)

It is noted, that Bartlett does not explicitly teach that the cavity is dimensioned to dampen ultrasonic frequencies. However Bartlett does not limit the damping of frequencies to any particular range. Therefore, it would have been obvious to dimension the cavity to damping any desired sonic frequency, including ultrasonic frequencies.

13. As to claim 7, Bartlett teaches that the cavity has a dimension L which is around 1/4 of the wavelength of the ultrasonic frequency to be dampened (Col. 3, lines 62-64).

14. As to claim 8, Bartlett teaches that the second tube part (21) is arranged in a plane perpendicular to the first tube part (Col. 3, lines 49-51). It is noted that Bartlett does not explicitly disclose that the shape of the second tube part is curved. However, Bartlett does not limit the shape of the tube cavities and discloses that the second tube part can be any shape (Col. 7, lines 39-41).

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Therefore, it would have been obvious to one of ordinary skill in the art to form the second tube part in any desired shape, such as a curve.

15. As to claim 9, Bartlett teaches that the cavity (21) is arranged in close proximity of the microphone (11).

16. As to claim 10, Bartlett teaches that the second tube part (21) is arranged in a plane perpendicular to the first tube part (Col. 3, lines 49-51). It is noted that Bartlett does not explicitly disclose that the shape of the second tube part is curved. However, Bartlett does not limit the shape of the tube cavities and discloses that the second tube part can be any shape (Col. 7, lines 39-41). Therefore, it would have been obvious to one of ordinary skill in the art to form the second tube part in any desired shape, such as a curve.

17. As to claim 11, Bartlett teaches that the cavity (21) is arranged in close proximity of the microphone (11).

Response to Arguments

18. Applicant's arguments with respect to claims 1-11 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

The prior art made of record

- a. US Patent Number 5745588

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ryan C. Robinson whose telephone number is (571) 270-3956. The examiner can normally be reached on Monday through Friday from 9 am to 5 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Curtis Kuntz, can be reached on (571) 272-7499. The fax

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phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Ryan Robinson

/Suhan Ni/

Primary Examiner, Art Unit 2614